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force,— pervades the entire discussion. This idea is set forth as the prime characteristic of freedom, and is defended against various forms of necessitarian objection with an ingenuity rarely surpassed. The admiration which the ability of Mr. Hazard's writings has excited is by no means limited to those who coincide with his philosophical opinions. The "Two Letters on Causation and Freedom in Willing," which are addressed to Mr. Mill, and which have just been given to the public in a revised form, are sufficient of themselves to entitle the author to a place in the front rank of metaphysical writers.

GEORGE P. FISHER.

ART. III. — INDIAN MIGRATIONS.

IN this article I intend to present such evidence bearing upon the migrations of the North American Indians as may be drawn from a consideration of physical conditions, especially the influence of abundant means of subsistence; and, in a second and concluding article, such other evidence upon the same subject as may be derived from their systems of consanguinity, their relative positions, languages, and traditions, and in addition, notices of such actual migrations as are known to have occurred. A determination of the probable source of the aboriginal inhabitants of South America will be involved in the general conclusions I seek to establish.

Since the materials we now possess are insufficient for a conclusive discussion of this subject, some of the views presented will be necessarily conjectural. But as philosophical speculations precede systems of philosophy, so historical speculations often lead the way to veritable history. In the present state of our knowledge, the great movements of the American aborigines in pre-historic ages still lie within the domain of speculation. A probable hypothesis with respect to the initial point of these migrations is the utmost we may hope at present to reach.

It will be my principal object to bring together a body of facts, bearing upon these migrations, which tend to establish

their starting-point in the valley of the Columbia River, and at the outset three propositions will be assumed to be true: First, that there was a time, in the past, when North and South America were destitute of human inhabitants. Second, that at the period of the discovery of their several parts a people were found thinly scattered over their vast areas, who agreed so minutely in physical and mental characteristics, that they all received a common name, and were regarded, whether correctly or incorrectly, as a common stock. And third, that the epoch of their first occupation was of very ancient date.

With respect to the first proposition, no discussion is necessary. The second, though of limited significance, is nevertheless important. From New Mexico to Patagonia, including the West India Islands, the Spanish navigators and explorers found this singular people universally distributed, and bestowed upon them, all alike, the name of *Indians*. They observed no difference in type, but, on the contrary, abundant evidence of a common type. The English and French met the aborigines from near the confines of the Arctic Sea to New Mexico, and from the Atlantic to the Pacific, and pronounced them, without distinction, *American Indians*. This uniform testimony of the first discoverers, the general truthfulness of which has been confirmed by all subsequent observers, tends to establish one of two alternative conclusions, — either that all these aboriginal nations were of immediately common descent, or that this uniformity in physical characteristics was the result of a continuous intermingling of blood.

Upon the third proposition, it may be observed that the occupation of America by the ancestors of the present Indians extends backward to a remote age, covering a period of many thousand years. If the unity of their origin is assumed, the lapse of many ages would be requisite to break an original language into the several existing stock languages, of which there are forty, more or less, in North America alone, — the number which have perished being unknown, — and to allow these in turn to pass into the multitude of dialects which are now spoken. On the contrary, if a diverse origin is assumed, it would still require several thousand years for two or more families genetically unconnected, and occupying such immense

areas, to have intermingled so completely as to create a typical stock, such as the Indian stock has become. The hypothesis of a diverse origin would seem further to require that these families should have been restricted, for mutual accessibility, either to North or to South America, and to a limited portion of one of these areas, until the coalescence had become complete; since the inhabitants of the two continents and of the islands were entirely isolated from, and ignorant of, the existence of each other at the epoch of their discovery.

Barbarians, ignorant of agriculture and depending upon fish and game for subsistence, spread over large areas with great rapidity. Under the operation of purely physical causes, they would reach in their migrations the remotest boundaries of a continent in a much shorter time than a civilized people with all the appliances of civilization. This important and well-established fact should be kept constantly in view. A narrow sea or treeless plain might arrest their progress for centuries; but wherever their feet could carry them, with subsistence accessible upon the way, they would be certain to go, until a continent as vast as the American in both its divisions had been traversed in all its parts. Agriculture tends to localize nations and wed them to the soil, thus arresting their dispersion or confining it to contiguous areas. Abundant means of subsistence tend to the same result; but when there is a surplus population which becomes emigrant, it seeks similar areas, without much regard to distance.

Whether the ancestors of the American aborigines were first planted in North or South America remains a question.* Our

* Dr. Daniel Wilson, in his "Pre-historic Man," advances the hypothesis of a peopling of South America from the Polynesian Islands, and of North America from South America. It is with reluctance that I am compelled to dissent from the views of this eminent scholar, who has done such excellent work for American ethnology. He remarks: "From some one of the early centres of South American population planted on the Pacific coasts by Polynesian and other migrations, nursed in the neighboring valleys of the Andes in remote pre-historic times, the predominant Southern race diffused itself, or extended its influence through many ramifications. It spread northward beyond the Isthmus, expanded throughout the peninsular region of Central America, and, after occupying for a time the Mexican plateau, it overflowed along either side of the great mountain chain, reaching towards the northern latitudes of the Pacific, and extending inland to the east of the Rocky Mountains through the great valley watered by the Mississippi and its tributaries. It is not, however, to be supposed that such a hypothesis of migration implies the

knowledge of the aboriginal inhabitants of South America, except of those upon the Andes, is still very imperfect. Descriptive notices of the people, with some classification of dialects into stock languages, exist, but the aggregate of information fails to meet the requirements of systematic ethnology. The inhabitants of the Andes, who in material progress and in the importance of their position far surpassed all the other aborigines of South America, were an insulated people. This great chain, with its table-lands, mountains, valleys, lakes, and rivers, forms a continent within itself; and however satisfactory the information we possess with respect to the Village Indians of this secondary continent might be regarded, as a guide to trustworthy conclusions concerning their original derivation some knowledge of the great movements of the remaining nations would be necessary. The facts with respect to the movements and relations of the North American Indians are much better understood, and may contain sufficient evidence for a settlement of the question in favor of an original home in North America. It is with an impression of the controlling character of this evidence that I shall treat the migrations of the North American Indians independently.

At the period of their discovery the American aborigines were ignorant of the use of iron, and, consequently, of the arts which require this metal; but they had undoubtedly made great progress, as compared with their primitive state. They were found in two dissimilar conditions. First were the Roving Indians, depending for subsistence upon fish and game. Second, the Village Indians, depending chiefly upon agriculture. Between these, and connecting the extremes by insensible gradations, were the partially Roving and partially Village Indians.* The first class had developed many useful arts. They possessed the art of striking fire; of making the bow,

literal diffusion of a single people from one geographical centre." (p. 595.) Farther on he observes: "But independent of all real or hypothetical ramification from Southern or insular offsets of oceanic migration, some analogies confirm the probability of a portion of the North American stock having entered the continent from Asia by Behring's Straits or the Aleutian Islands, and more probably by the latter than the former, for it is the climate that constitutes the real barrier." (Ibid., p. 597.)

* *Vide* North American Review, April, 1869, p. 494.

with the string of sinew, and the arrow-head, both of flint and bone; of making vessels of pottery; of curing and tanning skins; of making moccasins and wearing apparel, together with various implements and utensils of stone, wood, and bone; of rope and net making from filaments of bark; of finger-weaving, with warp and woof, the same materials into sashes, burden-straps, and other useful fabrics; of basket-making with osier, cane, and splints; of canoe-making,—the skin, birch-bark, and dug-out; of constructing timber-frame lodges and skin tents; of shaping stone mauls, hammers, and chisels; of making fish-spears, nets, and bone hooks, implements for athletic games, musical instruments, such as the flute and the drum, weapons, and personal ornaments of shell, bone, and stone. They had invented the art of picture writing, and had also developed a language of signs, which became the common medium of communication between nations speaking languages mutually unintelligible. They possessed a form of government, and clearly defined domestic institutions, which served to regulate their political affairs. When the extent of their progress in these several respects is fully appreciated, the differences between them and the Village Indians will be found much less in degree than is usually supposed.

Whilst the Village Indians possessed the same arts, implements, and utensils, as well as institutions and forms of government, they had obtained native copper, had formed copper implements, and, in certain areas, implements and utensils of bronze, and had also worked native gold and silver into various forms. But a knowledge of the use of these metals was limited chiefly to the Village Indians of Mexico and Peru. Even among these, little progress had been made in the employment of them in the practical arts of life. In addition to these means of advancement, they had learned the art of cultivating the ground, which established them in villages, and thus gave them a new impulse forward. It is plain that village life, upon the stable basis of agricultural subsistence, stimulated in a remarkable manner the development of their primitive arts. A decrease in the severity of the struggle for existence, and an increase of numbers in a small area, would necessarily be favorable to this progress; which

is conspicuously shown in their architecture and stone sculptures; and, perhaps more decisively, in the Maya and Aztec calendars to measure annual time, and in the solstitial stone of the Peruvians.* Ages upon ages of experience, with vicissitudes of lapse and recovery, were required, to produce the progress they had made at the epoch of European discovery. Measured from the stand-point of their primitive condition, — could the extremity of its rudeness be known, — the progress of the Roving Indians was probably much more remarkable in degree than that of the Village Indians after the change from a roving to a stationary life. The stages of progress in the ages of barbarism were as measured and real as the stages of progress in ages of civilization. Notwithstanding their knowledge of agriculture, the Village, as well as the Roving Indians, were still in the “Age of Stone.” They were found using stone implements and utensils, which had not been abandoned even among the more advanced of the former class. Agriculture, however, performed an important part in the elevation of the Indian family, although it never reached a sufficient development to give to the Village Indians the mastery of the continent, or to emancipate them from the superior power of the Roving and partially Village Indians, from whose ranks issued the migrating bands which peopled the continent. The principal nations of Village Indians in Mexico, if their traditions can be trusted, were themselves emigrants from the North but three or four centuries prior to the Spanish conquest. Natural subsistence was contending with agricultural for supremacy when European colonization commenced. It will be seen in the sequel that the former appeared to hold the mastery.

The American aborigines undoubtedly commenced their career as fishermen and hunters, but chiefly as fishermen; and the mass of them remained substantially in that condition

* In the lunar months of the Iroquois and other Northern Indians, we find an early stage of the same thought. In like manner we find in the language of signs of the Roving Indians the incipient forms out of which sprung, probably, the picture writings of the Aztecs, and ultimately the still higher ideographs upon the Copan monuments. If either of these forms is ever read, it is not improbable that the key will be found in this language of signs, which is still in constant use among the Western nations. It is a very ingenious and very expressive language.

down to the period of European discovery. The exceptions were the Village Indians, who, if not a minority of the whole population of both North and South America, were not much superior in numbers to the less advanced nations.* It will be perceived at once that the hunt is a precarious source of human subsistence. Without the horse to follow the larger animals of the chase upon the plains, it was entirely impossible for nations of men to maintain themselves from this source exclusively, or even principally. Increased numbers increased the diligence of the hunt in the same ratio, and this tended, in turn, to diminish the supply of game. Nations would rapidly perish if dependent upon so uncertain a source of maintenance. With the supply of fish the rule is different. In the ocean and in the lakes, which are the nurseries of fish, they are found in unlimited abundance. From these, as they enter the bays and rivers, they are taken in all seasons of the year with facility, and at certain seasons in the largest quantities. There is no doubt whatever that the principal reliance of the American aborigines for subsistence, with the exception at a later day of the Village Indians, was upon fish. This fact will be found to have an important bearing upon the formation of their centres of populations and upon their primary and secondary migrations. They were in reality, from first to last, nations of fishermen, who eked out their scanty sustenance with game, natural fruits, and bread roots, and afterwards — a portion of them — with the products of a limited agriculture. They were found in all the intermediate conditions, from those who subsisted principally upon fish, as the Athapascans and Ojibwas, to those who subsisted principally upon vegetable food, as the Aztecs and Tlascalans, and with no definite boundary line to separate one class from the other. A comparison of the principal facts bearing upon the point tends to show that *fish was the basis of subsistence* of the Indian tribes, to which their increase in numbers and diffusion over North America is to be ascribed. It was by the abundance of this article of food

* This opinion is expressed conjecturally. The Village Indians occupied but a small portion of the continent. They were confronted with Roving and partially Village Indians on every side, and their numbers, there are strong reasons for believing, have been grossly exaggerated.

that certain centres of population were created, which first supplied, and afterward replenished, the continent with inhabitants.

It should also be observed that the migrations of men are not fortuitous. They are deliberate movements, under the government of law. The influences by which they are immediately brought about are much less important than the physical conditions of climate and subsistence under which they are accomplished. An initial point of migrations does not become such by accident, but has of necessity a material basis in its natural advantages; and it may be remote from the place where the first ancestors of a family were planted, and reached only after several changes of location, and the lapse of centuries of time. Our first inquiry, therefore, should be, whether in fact there was any one region or district of country in North America which possessed advantages for Indian occupation so far superior to all others as to render it a natural centre of population, and consequently an initial point of migrations. If any such region existed upon an uninhabited continent, it would, when occupied, stand in a superior and commanding relation to every other portion of its area until this was peopled in all its parts, or until these advantages were neutralized by a change of conditions,—such, for example, as might result from the development of agriculture as a substitute for fishing and hunting.

Leaving certain other preliminary considerations which would naturally suggest themselves, I intend, in the remainder of this article, to examine, first, the geographical features of North America with reference to its natural highways or lines of migration; secondly, to compare its several regions with regard to the amount of subsistence which they respectively afforded to a people living as fishermen and hunters; thirdly, to test the results thus obtained by the statistics of Indian population in these several areas; and lastly, to consider the nature and distribution of Indian agriculture in other areas, as a means of counterbalancing these advantages. In this manner the fact can be ascertained whether any one region existed in North America possessed of such advantages in furnishing spontaneously means of subsistence as to make

it the natural nursery of the aboriginal inhabitants of the continent.

1. *Geographical Features of North America.*—These features may be considered under the threefold division of the prairie, the mountain, and the forest areas; the first being the least, and the last the most, desirable territory for Indian occupation.

First, the prairie areas. The great central prairies occupy the interior of the northern continent. In the vastness of their continuous expanse, and in the exuberance of their vegetation, they are without a parallel in any portion of the earth. They extend from latitude 29° , and south of it, to the north of Peace River in the Hudson Bay Territory, in latitude 60° north. In their greatest lateral expansion they extend from the western part of the State of Indiana, in longitude 9° , to the eastern base of the Rocky Mountain chain, in longitude 28° west of Washington. From this line of their greatest width from east to west, they contract gradually as they stretch both northward and southward, forming a vast inland plain, carpeted with grass, watered by great rivers, and encompassed by forests. The boundaries of this central prairie region will be made familiar by tracing briefly their circuit. Commencing upon the Rio Grande, which forms, in part, the southern boundary of the United States, and following the general line that separates the forest from the prairie northeasterly, a narrow belt of forest is found in Texas, bordering the Gulf of Mexico, but penetrated here and there by the prairie, which reaches the Gulf at several points, as at the mouth of the Nueces* and at Matagorda Bay.† Louisiana, the eastern part of Arkansas, and the southeastern part of Missouri, were originally forest; while all west of this line was prairie, with the exception of narrow fringes of forest along the rivers and water-courses, and of small and irregular belts of timber upon the lowlands. Crossing the Mississippi above the mouth of the Ohio, the prairies follow the wide belt of woodlands along the northern bank of the Ohio, until they reach and penetrate the State

* Bartlett's Personal Narrative, II. 529.

† Bancroft's History of the United States, III. 171.

of Indiana, where their eastern limit is found, with the exception of prairie openings in Central and Eastern Indiana and in Western Ohio. Turning thence in a northwesterly direction, the prairie touches the foot of Lake Michigan at Chicago, from which point northward the belt of forest along the western shore of Lake Michigan widens, so that the dividing line passes a number of miles west of the head of Lake Superior, whence it continues near the chain of small lakes to Lake Winnipeg. Keeping to the west of this lake and of Lake Manitoba, which is also bordered with forest, the boundary line of the prairies runs northwesterly to near the west end of Athapasca Lake, where it crosses Peace River, and extends beyond, to Hay River, near the sixtieth parallel, after which it bears southwesterly to the slopes at the foot of the Rocky Mountains. East, north, and northwest of this line there is forest, whilst all within is prairie.* Upon the plateau of Peace River, in the far north, are found the northern limits of these magnificent and verdant fields, upon which no eye can rest without wonder and admiration. Southward, along the base of the Rocky Mountain chain, the lower slopes of which are wooded to the edge of the plains, the prairies spread uninterruptedly to our starting-point on the Rio Grande.

This vast area, which traverses thirty-one parallels of latitude and nineteen parallels of longitude, in its greatest continuous expanse measures more than seventeen hundred miles from north to south, more than a thousand miles from east to west, and embraces upwards of eight hundred thousand square miles. It is not entirely a treeless region, neither is it separated from the surrounding forests by a sharply defined line. East of the Mississippi River the prairie area is a combination of forest and prairies, the latter greatly predominating. There are margins of forest along the rivers and water-courses, upon the hills, and in numerous districts of lowlands. Besides these there are irregular belts of forest, which run for miles independently of rivers and streams. Climate is an efficient cause of

* There are patches of prairie northwest of Hay River, in which the "timber buffalo," so called, is found. This animal is smaller than the ordinary buffalo, but believed to be the same species. Having traversed the intermediate forests, he has remained permanently in this far northern region.

the production of forest in the prairie area east of this river. The humidity of the atmosphere from the prevalence of winds from the Gulf of Mexico, which determines the climate of the region, tends constantly though slowly to extend the forest over the prairie and to increase the extent of its development upon the borders of the rivers. After crossing the Mississippi, in going westward, one finds a gradual diminution of the relative extent of forest, and this change becomes more rapid and marked beyond the Missouri, in Kansas and Nebraska.* As we recede from the influence of the Gulf winds and come in contact with the true climate of the prairies, it becomes constantly drier, since the remaining region is now shut in upon the west by the double barrier of the Rocky Mountains and the Sierra Nevada, which deprive the winds of their moisture on their passage from the Pacific eastward. After traversing about one hundred and fifty miles of Kansas, to the twenty-second meridian west of Washington, the western limit of arable land in the prairie area under consideration † is reached. Westward of this line the dryness of the climate continues to increase, the trees diminish in number and decrease in size, and finally disappear from the margins of the rivers. The grasses, yielding to the same influences, become less and less luxuriant, until the prairies, long before they reach the base of the mountains, degenerate under the summer sun into arid plains. Northward, on the Upper Missouri, the grasses never attain the luxuriance which they display in Eastern Kansas and Nebraska, by reason of the western trend of this river, but on the Upper Mississippi and along the Red River of the North to Lake Winnipeg they maintain a vigorous growth.

The most perfect display of the prairies is found in the eastern parts of Kansas and Nebraska. It is no exaggeration to pronounce this region, as left by the hand of Nature, the most beautiful country in its landscape upon the face of the earth. Here the forest is restricted to narrow fringes along the rivers and streams, the courses of which are thus defined as far as the eye can reach, whilst all between is a broad expanse of

* Ne-blas-ka, name of Platte River in the Kaw dialect, "overspreading flats with shallow water."

† Explorations for a Railroad Route, etc., to the Pacific, I. 25.

meadow-lands, carpeted with the richest verdure and wearing the appearance of artistically graded lawns. They are familiarly called the rolling prairies, because the land rises and falls in gentle swells, which attain an elevation of thirty feet, more or less, and descend again to the original level, within the distance of one or more miles. The crest-lines of these motionless waves of land intersect each other at every conceivable angle, the effect of which is to bring into view the most extended landscape, and to show the dark green foliage of the forest trees skirting the streams in pleasing contrast with the light green of the prairie grasses. In their spring covering of vegetation these prairies wear the semblance of an old and once highly cultivated country, from the soil of which every inequality of surface, every stone, and every bush has been carefully removed and the surface rolled down into absolute uniformity. The marvel is suggested how Nature could have kept these verdant fields in such luxuriance after man had apparently abandoned them to waste. This striking display is limited to about one hundred and thirty miles in the eastern part of Kansas and a narrower belt in Eastern Nebraska.

The great extent and peculiar features of the central prairie area have been brought thus prominently forward for the purpose of calling attention to two facts. In the first place, that this region interposed a serious, if not insuperable, barrier to free communication between the Pacific and Atlantic sides of North America. Between the thirty-second and fifty-fifth parallels, that is, from the southern boundary of New Mexico to the regions north of the Siskatchewan River, there are but three or possibly four routes of migration from one side of the continent to the other,—by the Siskatchewan to Lake Winnipeg, and thence by the chain of lakes to the valley of the St. Lawrence; by the Missouri to the Mississippi, the least probable of the four; by the Platte to the Missouri and thence to the Mississippi; and by the Arkansas to the Mississippi. On either route eight hundred miles of prairie, more or less, must be traversed in dependence upon the limited supply of game which the fringe of forest upon these rivers and the open prairies might be able to furnish, and over which American emigrants, aided by the ap-

pliances of civilization, have been barely able to pass. In the second place, that the greater part of this area west of the Mississippi, and nearly all of it west of the Missouri, was a solitude at the period of European discovery. It is perfectly evident from the nature of these prairies that they were never occupied by Indian nations, except in districts of very limited extent along the wooded margins of the great rivers by which they are traversed. A region more inviting to nomadic nations possessed of flocks and herds can scarcely be found upon any continent; but inasmuch as the American aborigines were fishermen and hunters, and could not lead a nomadic life upon these plains until they had obtained the horse, these vast pastures were to them a waste, except as the nurseries of the antelope, the elk, and the buffalo. America, generous in every other respect, had denied to her primitive inhabitants all useful animals capable of domestication, except the llama of the Andes.

West of the Rocky Mountains there are large expanses of prairie, in Colorado, Utah, Idaho, Nevada, and Arizona; in California, Oregon, and Washington; and also in British Columbia. Southward, in Mexico, the spread and boundaries of the prairies have not been so definitely ascertained. Chihuahua, Sonora, and Zacatecas have broad prairies within their limits, and patches of prairie land are said to be found, here and there, southward to the valley of Mexico.

2. *Mountain Areas.* — The mountain regions of North America are extensive, from the great length and lateral expansion of the Rocky Mountain chain, which, under different names, extends in substantial continuity from the Isthmus of Panama to the Arctic Sea. In its central part it sends off spurs and transverse ranges to such an extent, that, when to these are added the parallel ranges of the Sierra Nevada and Cascade Mountains, a large portion of the continent, west of the central prairies, is so broken up as to render it substantially a mountain country. Below the snow-line the declivities of most of these mountains are wooded, as well as their lower slopes for considerable distances outward. Portions of these ranges are sterile, from the dryness of the atmosphere, yet the greater part of them are not only habitable for man, but were in the

main well stocked with game, and their valleys with bread roots.* These great ranges furnished, as well as suggested, highways of migration. They also gave to these movements a general direction from north to south, or the reverse. It is not only probable, but it can be proved with reasonable certainty, that the migrations upon the Pacific side of the continent followed these mountain chains, rather than the prairies or the sea-coast. With respect to the method of these movements, it is not to be supposed that they were a series of flights of tribes or nations under the impulse of fear, seeking a distant habitation by the most convenient route, and leaving not a trace behind; they were rather a gradual spread from an original centre, preserving the continuity of the people over a large area, for the possession of which it was contending with bordering nations as it advanced outward. Such movements would result from the displacement from within of unsuccessful competitors for the occupation of an overstocked area.

It is another singular feature of the Northern division of the continent, that no mountain chain occurs east of the Rocky Mountains until the confines of the Atlantic are reached, where the moderately elevated Alleghanies are found, with more than fifteen hundred miles of prairie and forest between. The last-named range possesses but little importance with reference to the migrations of the Indian nations, as it was encompassed on all sides by the great American forests. The same is true of the mountain districts in the British Provinces.

* Among the peculiarities of the Rocky Mountains are the Parks. "The Parks of Colorado are elevated bowls in the mountain country, having the appearance of beds of inland seas upheaved and emptied of their waters by volcanic agency. They present to the eye scenery magnificent beyond description, made up of far-reaching forests, fertile meadows, and beautiful streams, surrounded by the lofty peaks of the great Rocky range. The principal of these parks are the North Park, . . . Middle Park, . . . South Park, . . . Huerfano Park, . . . and the grand San Luis Park in the southern part of Colorado, having an area of 18,000 square miles, watered by thirty-five streams, — sixteen of them emptying into the Rio Grande del Norte, which flows through its southern limit, and nineteen into San Luis Lake, which extends sixty miles from north to south in the centre of the park, and apparently without an outlet. This park is remarkable for its natural scenery, the grandeur of its forests, the fertility of its soil, the purity of its waters, and the vast deposits of peat in the vicinity of San Luis Lake." — *Report of the Commissioner of General Land Office for 1868*, p. 51.

3. *The Forest Area.* — The remaining, which is much the largest, part of North America, was covered with forests at the epoch of European discovery. To the American aborigines, as fishermen and hunters, they afforded a not inhospitable home. They offered every advantage which could render the lives of men in their condition capable of maintenance. But the vigorous and overmastering growth of forest vegetation, against which they had no power to contend, must have constantly retarded their advance in civilization. It is impossible to conceive of a region more unfavorable to the progress of nations out of a state of barbarism. And when, in course of time, the Indians obtained corn and the art of tilling the ground, the sturdy forces of nature first resisted and then tended to overwhelm their feeble appliances in husbandry. Notwithstanding these hindrances, and the oppressive burdens of forest life, the finest specimens of the Indian, north of Mexico, were found in the strictly forest nations. The progress they had actually made, under such immense disadvantages, although small, must heighten our appreciation of their natural capacities.

There are two sections of country not included in the areas already considered, — the “Barren Grounds” and the “Colorado Basin.” The former occupy the northeastern corner of the continent, west of Hudson’s Bay. They are bounded by a line drawn from the shore of this bay in latitude 61° north to the east end of Great Slave Lake, and thence northeasterly to the Arctic Sea. North and east of this line the entire region is destitute of trees and of every species of vegetation except the lichen. It is utterly barren, and more dreary than the ordinary desert, from its arctic climate.* The Colorado Basin is a district of considerable extent, traversing several parallels of latitude and meridians of longitude, situated south of the Humboldt Mountains and between the Colorado River and the Sierra Nevada. Later explorations show that this area is not properly a basin. There is a series of seven basins around and within the rim of the Great Basin, above which the lowest parts of the central area rise more than a thousand feet. The central portion,

* Richardson’s Journal of a Boat Voyage through Rupert’s Land, London ed. 1851, I. 151.

which forms much the larger part of the area, is broken up into mountain ranges running north and south, and having an average altitude of five thousand feet.* The sterility of the basin is explained by the dryness of the climate, the annual precipitation being estimated at five inches.† Notwithstanding its inhospitable character, this region still sustains a considerable Indian population, but of the lowest grade.

By the distribution of the prairie, the forest, and the mountain areas of North America, both the primary and the secondary lines of migration are clearly revealed. The principal line, upon the western half, is north and south. It was a great central route furnished and suggested by the Rocky Mountain chain. Parallel with this, and nearer to the Pacific, was a second highway along the continuous chains of the Cascade and Sierra Nevada Mountains, which extend from a point opposite Queen Charlotte's Sound to near the head of the Gulf of California. A third was the sea-coast. Between the Rocky Mountains on the west, and the Mississippi and St. Lawrence valleys on the east, the natural lines of migration were the great rivers, which were secondary in attractiveness and importance. North of Athapasca Lake the forest offered a free communication between the mountains and Hudson's Bay, although the principal rivers run northward. From this high northern region to the southern limits of New Mexico, the central prairie area could be traversed only on the lines of the rivers which flowed through them eastward. Of these there are but three, perhaps four, possible lines, as before stated. First, that of the Siskatchewan, which furnished the most feasible route ; second, that of the Arkansas, possessing nearly equal advantages ; third, that of the Platte, which is more difficult than either ; and lastly, that of the Missouri, which is substan-

* The Shortest Route to California across the Great Basin of Utah, by Brevet Brig.-Gen. T. H. Simpson, 1869.

† "This great arid region may be said to embrace ten degrees of longitude and seventeen of latitude, drained only by the Columbia and Great Colorado rivers in any outlet to the sea. Fully half of it is the Great Basin of the interior, which does not receive sufficient water to require any external drainage. Taking the basin as nearly eight degrees of latitude and seven of longitude, we have ten hundred thousand square miles, so deficient in rain as to send out no rivers and to accumulate no considerable lakes." — *Blodgett's Climatology of the United States*, p. 352 ; and *Hyetal Chart*, p. 354.

tially an impracticable route, since the river runs for twenty-five hundred miles through open prairies. For the first four hundred miles east of the Rocky Mountains these rivers flow through dry and substantially treeless regions, and for the next four hundred through lands not much more inviting to fishermen and hunters. These obstacles presented a formidable barrier, as before remarked, to all communication between the Pacific and Atlantic sides of the continent. It is not improbable that an original family of mankind, planted in and overflowing from the valley of the Columbia as a nursery land, would reach Patagonia sooner than Florida, migrating under the influence exclusively of physical causes. The influence upon Indian migrations produced by the comparative facilities afforded by these several routes will be referred to again.

4. *Means of Subsistence and Centres of Population.* — The abundance or scarcity of food, in different parts of the continent, must have exercised a decisive influence upon the course of Indian migrations, both as to stock families and individual nations. The people would necessarily be drawn towards the regions where subsistence was most easily procured. In such places the largest development of numbers would naturally be found. These movements would be gradual, and represent long periods of time, as well as a series of struggles for the possession of the most desirable areas. It is difficult to form even a vague conception of the actual condition of the American aborigines in the early periods of their existence. They were thinly scattered over the greater part of the continent, and held together in small bands as fishermen and hunters, by the slender ties of Indian national life. With neither metallic implements with which to cultivate the soil, nor domestic animals for pastoral purposes, they were divided, belligerent, and mutually destructive. One of the chief marvels connected with their history is the simple fact that so many of them, as we have reason to believe existed, were able to maintain life upon resources so limited and so fluctuating. It serves to demonstrate that the arts and appliances of barbarous nations are much more effective for human maintenance than a superficial examination of them would lead us to suppose.

A comparison of the principal regions of North America, north of Mexico, will reveal material differences as to the abundance of spontaneous means of subsistence. East of the Mississippi the most valuable portion was that which bordered upon the Great Lakes. These inland seas produced fish in abundance. The aborigines were able to take them in the bays that indented their shores, in the streams flowing into them, and in the rivers by which they were connected in a continuous chain. Although the shore-line of these lakes measures thousands of miles, there were particular districts which concentrated the advantages of each. Of these, the Rapids at the outlet of Lake Superior, held by the Ojibwas,* the Straits of Mackinaw, held at a later day by the Ottawas,† the Georgian Bay, held by the Hurons, may be cited as examples. The south shore of Lake Ontario, and particularly the inland lake region of Central New York, occupied by the Iroquois, possessed excellent fisheries. But little inferior to these were the river districts of New England, in which fish from the ocean were found at particular seasons in great abundance, superadded to which were the shell-fish of the coast. From Hudson River

* The Crane tribe of the Ojibwas have the following legend of their origin: "The Great Spirit created two cranes, a male and a female, in the upper world, and, having let them through an opening in the sky, directed them to seek a habitation for themselves upon the earth. They were told, when they had found a place which suited them to fold their wings close to their bodies as they alighted upon the chosen spot, when they should be immediately transformed into a man and woman. The pair flew down to the earth and spent a long time in visiting different parts of the continent. They went over the prairies, and tasted the meat of the buffalo, which they found to be good, but they also came to the conclusion that it would not last. They passed over the great forests and tasted the flesh of the elk, the deer, the beaver, and of many other animals, all of which they found to be excellent; but they feared the supply of food from these sources would also fail. After making the circuit of the Great Lakes, and tasting the various kinds of fish with which their waters were supplied, they came at last to the Rapids at the outlet of Lake Superior, where they found fish in great abundance making their way through its noisy waters. They discovered that they could be taken with ease, and that the supply was inexhaustible. 'Here,' they said to each other, 'is food forever; here we will make our homes.' Near the site of Fort Brady, upon a little knoll near the foot of the Rapids of the St. Mary, which is still pointed out, the cranes alighted, folding their wings as directed. The Great Spirit immediately changed them into a man and woman, who became the first parents, and the progenitors of the Crane tribe of the Ojibwas." This legend was communicated to the writer by Wä-bé-gé-sin' (White-Hawk), an Ojibwa of the Crane tribe.

† O-tä'-was: ä as in father, a as in ale.

southward to the James the country, for similar reasons, was favorable for Indian occupation. It required, however, south of the Great Lakes, the additional resources of game and of a limited agriculture to sustain the numbers found in possession of these several areas at the time of their discovery. The Gulf region was inferior to those already named in the means of subsistence it afforded. It was poorly supplied with fish, except upon the coast, and with game; but these disadvantages were compensated by a genial climate, and by the greater productiveness of the garden beds, upon which the inhabitants chiefly relied. There is a wide district of country upon both sides of the Ohio River, occupying half the space between the Great Lakes and the Gulf, which formed the poorest part of the area east of the Mississippi. It was not destitute of game, but poor in fisheries, and therefore uninhabitable without cultivation of the soil. The absence of lakes throughout this area, and the turbid character of the waters of the Mississippi, which excluded ocean-fish, furnish a sufficient reason why this entire region was a solitude at the period of European discovery. It also tends to show that the Mound-Builders, who occupied this area, — chiefly north of the Ohio, — were Village Indians (probably from New Mexico); otherwise they would not have selected this region in preference to others.*

* The earthworks of the so-called Mound-Builders seem to remain an insoluble problem in American ethnology. The authors of "The Ancient Monuments of the Mississippi Valley" remark in their preface (p. xxxiv.) that "the ancient enclosures and groups of works personally examined and surveyed are upwards of one hundred. . . . About two hundred mounds of all forms and sizes, and occupying every variety of position, have also been excavated." Out of ninety-five earthworks (which probably mark the sites of Indian villages) figured and described in this memoir, forty-seven are of the same type, and may be assigned unhesitatingly to the Mound-Builders; fourteen are emblematical earthworks, mostly in Wisconsin, and may probably be assigned to them also; but the remaining thirty-four are doubtful. They may or may not belong to the class of Village Indians who constructed the works in the Scioto Valley. If to these are added the fifty or sixty emblematical earthworks in Wisconsin figured and described by Mr. Lap- ham, there may be one hundred and forty such works, large and small, genuine and doubtful, indicating the sites of Indian pueblos, of which something more than one hundred may have been in actual occupation at the same time. The earthworks proper must be regarded as the sites of so many pueblo villages, constructed and occupied by the Mound-Builders. The question then recurs, for what purpose did they raise these embankments, at an expenditure of so much labor? If a sensible practical use for these embankments can be found it will be more sat-

Along the east side of the Mississippi, above the Ohio, and upon its tributaries, were settlements of Algonkin nations ; but

isfactory to adopt the suggestion than be subject to the mischief in ethnology which comes from handing such remains over to the category of mysteries. "A large, perhaps the larger portion of these works," observe the same authors, "are regular in outline, the square and the circle predominating. . . . The regular works are almost invariably erected on level river terraces. . . . The square and the circle often occur in combination, frequently communicating with each other." (Ibid., p. 6.) "Most of the circular works are small, varying from two hundred and fifty to three hundred feet in diameter, while others are a mile or more in circuit." (Ibid., p. 8.) The walls of these embankments are for the most part slight, varying from three to six, eight, ten, and twelve feet in height, with a base of proportionate width, as appears from numerous cross-sections furnished by the authors. But the circular embankments are the lowest.

I am tempted to submit, for what it is worth, a conjectural explanation of the uses made of these embankments, on the reasonable assumption that the Mound-Builders were Village Indians from New Mexico, the nearest point from which such emigrants could have come into this area ; who, as such, would have been apt to choose this region, so favorable for an agricultural subsistence, though so poor in fish and game. As Village Indians they would understand cultivation, the use of adobe brick, and the art of constructing communal houses, closed in the first story on the ground for defensive reasons, and entered through the flat roof by means of ladders, with which they ascended also. If, for example, a band of Village Indians, with such habits, emigrated from dry New Mexico to the Scioto valley in Southwestern Ohio, they would find it impossible to construct houses of adobe brick able to resist the frosts and rains of that climate. They would then be compelled to use stone, which they did not ; or to build their houses of poles and bark upon the level ground, and thus change their habits ; or to *raise embankments of earth as a substitute for the first story*, and construct their houses of poles and bark upon this foundation. It is not improbable that these embankments were constructed for this purpose, and were lined on their tops with long pueblo houses of poles and bark, — the best they were able to build. This conjecture has a basis of probability, and will bear further examination. If we examine the Scioto valley, the earthworks of which are the best specimens of the class, we find within an extent of twelve miles the remains of seven large pueblo villages, four upon the east, and three upon the west side of the river. The remains of each of the seven consist principally of an embankment of earth, several feet high, and correspondingly broad at the base, enclosing a square or slightly irregular area, each of the four walls or embankments being about a thousand feet long, with an opening or gateway in the middle of each, and usually at each of the four angles of the square. Attached, or quite near, to five of the seven are large circular enclosures, each formed by a similar but lower embankment of earth, and enclosing a space somewhat larger than the square enclosure. The height of the walls of four of the square enclosures are given respectively at four, six, ten, and twelve feet, with bases from thirty to fifty feet ; and three of the circular embankments are five and six feet high respectively. The embankments around the squares were probably the sites of their houses, since as the highest they were best adapted to the purpose. When in use they were of course higher than at present, and probably with flat tops, and sides steeply graded. In houses thus erected upon elevated embankments, some of the features

the occupation of this region by them was comparatively modern, and their dependence more upon fish and game. The open prairies were also solitudes.

Bancroft estimates the number of Indians east of the Mississippi and south of the chain of lakes, at the beginning of the seventeenth century, at one hundred and eighty thousand.* This is as large a number as our information will justify.† There is not the slightest reason for supposing that they ever exceeded that number.

In the central prairie area, west of the Mississippi, there is but one district which calls for special notice. It is the coun-

of security enjoyed in a house of the New Mexican model would be realized. Indians accustomed to such houses, and to spending their time upon terraced rooftops, would be apt to resort to such embankments, if unable to construct houses of stone after finding adobe brick unsuitable, rather than to live upon the level ground. A number of these enclosures are ten hundred and eighty feet square, which gives an aggregate length of embankment of four thousand three hundred and twenty feet, without deducting the openings, each of the four embankments being divided at the centre. With each of the eight surmounted by a house about five hundred feet long and of the width of one apartment, accommodations would be furnished for a band of twelve hundred Indians,—about the average number in a large pueblo. The aggregate length of the apartments in the pueblo of Chetho Kette, on the Rio de Chaco, in New Mexico, including the several stories, is four thousand seven hundred feet, about equal in accommodations with one of those on the Scioto, constructed as supposed.

With respect to the embankments enclosing circular areas, the smaller ones might have been used in the same way, and even the larger, but for two objections; first, their want of sufficient height, and second, that if so used they would furnish accommodations for from two to four thousand additional persons, making, by the addition, too large a number for an Indian village. Other uses, such as that of a cemetery, or village common, might be suggested. In some of them mounds are found raised over the remains of deceased chiefs.

If the conjecture with respect to the higher embankments enclosing squares is well founded, charcoal and ashes, the remains of fire-pits, should still be found at intervals along their summits, unless the banks have been greatly reduced by the frosts and rains of centuries.

* "We shall approach and perhaps exceed a just estimate of their numbers two hundred years ago, if to the various tribes of the Algonquin race we allow about ninety thousand; of the Eastern Sioux, less than three thousand; of the Iroquois, including their Southern kindred, about seventeen thousand; of the Catawbas, three thousand; of the Cherokees, twelve thousand; of the Mobilian confederacies and tribes, that is, of the Chickasas, Choctas, and Muskogees, fifty thousand; of the Uchees, one thousand; of the Natchez, four thousand: in all, it may be, not far from one hundred and eighty thousand souls." — *History of the United States*, III. 253.

† Consult, further, Greenhalgh's Estimate, 1677, Col. Hist. N. Y., III. 250; Sir William Johnson's Estimate, 1763, *Ibid.*, VII. 582, and French Estimate, 1736, *Ibid.*, IX. 1052.

try upon the head-waters of the Mississippi, which was occupied by the Sioux, or Dakotas, at the period of European colonization. For Indian occupation it is not inferior to the best of those previously described. Being a combination of forest with prairie, and within the range of the elk and the buffalo, it was an excellent game country; but its chief advantages were the lakes with which Northern Minnesota is literally crowded, which were well stocked with fish.* The Dakotas were without agriculture, and depended upon fish, game, and wild rice (*Zizania aquatica*, Linn.). They ranged eastward to Lake Superior, and westward to the Missouri. Their numbers when first discovered we have no means of knowing accurately. They were one of the great stocks of the Northern Indians, and stood next to the Iroquois in character and strength. The French estimate of 1736 gave them about twelve thousand.† They now number upwards of thirty thousand.

The Lower Missouri, from the mouth of the Platte River, was a poor country for Indian occupation. Several small nations dwelt upon its banks, and continued to maintain a bare subsistence. Above the Platte the forest is confined to the bottom lands within the bluffs, except in places near the mountains, and is interrupted for long distances even within this narrow valley. This river, from its turbid character, is also poorly supplied with fish. Buffalo abounded upon the entire course of the Missouri. They existed in millions upon the central prairies, but without the horse to give chase the Indian hunter was powerless, except by accident of position.

Canada and the Hudson Bay territory were, in the main, countries unfavorable to the sustenance of Indians. Fish and

* These lakes, which are from one fourth of a mile to ten and twenty miles in length, are connected, many of them, by continuous outlets, and are still well supplied with fish. It is a lacustrine region in the full sense of the term, about one twentieth of the surface being covered with lakes. I counted within an extent of sixty-five miles sixty-one lakes, in which number were included such only as contained clear water and were from an eighth of a mile to ten miles in length. They were within a belt not exceeding ten miles in width upon the route travelled, which was as far as the country could be seen, from the rolling character of the surface. These lakes were usually wooded upon the north and east sides, and bordered with prairie on the south and west, thus showing the prevailing direction of the winds.

† Colon. Hist. New York, IX. 1052.

rabbits were the principal food of their aboriginal inhabitants. The "Thick Wood" region lying around Hudson's Bay, and embraced within a circuit of three hundred miles from its shores, was cold, rugged, and swampy. Nearly half of this district is under water; and yet it was thinly peopled from Lake Winnipeg to the confines of the Eskimos on the coast of Labrador. There were no centres of population within this area. North of the prairie area, or of Peace River, there is a gradual descent of a thousand miles to the Northern Ocean. Its rivers and lakes are well supplied with fish, and its dwarfed forest with some kinds of game. A short hot summer visits both the Mackenzie and Yukon River districts, but for the remainder of the year it is intensely cold. Rigor of climate, however, is not an absolute barrier to Indian occupation, although unfavorable to an increase of numbers. This region has always sustained a considerable Indian population, which, within the last two centuries, through the peaceful relations preserved among them by the Hudson Bay Company and by the trade in furs, has largely increased.

In 1857 Sir George Simpson estimated the entire Indian population of British America, east of the Rocky Mountains, at sixty-seven thousand souls, including the Eskimos and excluding the half-bloods at Red River Settlement. Of this number he remarks: "Twenty-five thousand live principally upon buffalo meat, and thirty thousand live principally upon fish and rabbits." * West of the mountains, in a territory less than one eighth of this in extent, he estimates the number of inhabitants at eighty thousand, and the reason for this great dif

* Report from the Select Committee on the Hudson Bay Company to Parliament in 1857, p. 96.

In the Appendix to this Report, at page 376, is the following estimate, made by Simpson, of the number of Indians in the Hudson Bay Territory:—

Thick Wood Indians, east side of the Rocky Mountains	35,000
The Plain Tribes, Blackfeet, etc.	25,000
The Esquimaux	4,000
Indians settled in Canada	3,000
Indians in British Oregon and on the northwest coast	80,000
	<hr/>
	147,000
Whites and Half-breeds in Hudson Bay Territory	11,000
	<hr/>
Total	158,000

ference will presently appear. The significance of this disproportion is increased by the fact that the development of the larger part of the population upon the prairies east of the mountains was subsequent to their possession of the horse.

The general character of the country east of the Rocky Mountains and north of New Mexico has now been sufficiently set forth to indicate the sections where a considerable population was developed, and the basis upon which it was sustained.

West of the mountains there is one particular district which rises in importance above all others upon the continent. On the northwest coast there is a region of ample extent, having Puget's Sound as its centre on the Pacific, and the valleys of the Columbia and Frazer's rivers within its circumference, which combined so singularly all the advantages of the mountain, the forest, the prairie, and the sea-coast as to give it a superiority over every other region either of North or South America. Within a radius of five hundred miles from the head of this sound,—from the Umpqua River on the south to Queen Charlotte's Sound on the north, and from the sea-coast to the western slopes of the Rocky Mountains,—this country, embracing the greater part of the drainage of the two rivers before named, was singularly well supplied at the time of its discovery with the requisites for the subsistence of Indian tribes. A mild and genial climate was added to its other advantages. In the amount and variety of the means of subsistence spontaneously furnished, it had no parallel in any part of the earth. It deserves a somewhat minute examination from the relation in which, by reason of this fact, it stood to the remainder of the continent.

A combination of forest and prairie rendered it an excellent game country, although it was not entered by the buffalo. Elk, bear, deer, mountain sheep, the rabbit, and the beaver were abundant, and as they found refuge in the fastnesses of the mountains or on the open prairies their extermination was impossible. With water and land fowls of different species the region was well supplied, together with wild fruits and berries of various kinds. In the kamash (kă'-mash) root, from which they prepared a species of bread, and which was found in inexhaustible supplies upon the prairies, they possessed a resource

of no small importance, particularly in seasons of scarcity.* Other bread roots were also found in this area, such as the cayuse and biscuit, and likewise a species of edible black moss,† each of which entered more or less into the subsistence of the aborigines. In these several respects this region was not greatly superior to some of those previously named. The signal advantages which it possessed were its inexhaustible salmon and shell fisheries. From these sources, and particularly from the first, arose that superabundance of food

* The kamash is a white bulbous root resembling the onion. It has a blue flower, and ripens in June, in which month it is gathered. In Oregon and Washington it is found in abundance, literally covering, when in flower, some of the prairies. The kamash is first baked, then formed into cakes and dried in the sun and air, after which it will keep for a year. It is boiled with meat and also eaten alone. For the purpose of baking they make a cavity in the ground large enough to hold ten and even twenty bushels of the kamash, and line it with pebble-stones. After it is filled to the level of the surface with kamash roots, a covering of pebble-stones is placed over the mass, then a second covering of grass, upon which a hearth is formed of clay. Upon this hearth a fire is made, and continued for about seventy hours, the time required for baking. If the fire eats through the hearth, which is shown by a rise of steam from the kamash, the place is again covered with mortar. When the kamash is taken out it is black, soft, and very sweet to the taste. It is then made into cakes and dried, after which it is ready for use. The above particulars were communicated to the writer by Father De Smet, S. J., the distinguished Oregon missionary. Governor Stephens thus refers to this root: "The kamash root forms an important article of food when other supplies fail" (Pres. Mess. and Docs. 1854 - 55, Pt. I. p. 423); and George Gibbs, Esq., remarks: "The Skagits have a natural resource in their camash, which grows abundantly on the prairies of Whitby's Island. . . . The camash, it is worth mentioning, improves very much by cultivation, and it is said to attain the size of a hen's egg in land that has been ploughed." (Explorations for a Railroad Route, etc., I. 4, 33.)

† This moss grows abundantly as a parasite on the pine-trees of Oregon and Washington, some of which will yield several bushels. It is gathered and washed, after which it is formed into balls, and baked in ovens in the same manner as the kamash, the baking requiring about forty-eight hours. It comes out in a fluid state, and is much like liquorice to the taste. After drying it in the sun they cut it into cakes and put it aside for use. They also mix it with the kamash after both are cooked, and let them harden together. When they are hardened separately they are pounded together and made into a kind of cheese. The kamash is highly nutritious; the moss only moderately so. The biscuit root yields a white flour when pulverized, and is eaten dry. Besides these they have a black edible root called the tobacco root, and the inner bark of a species of pine, which is sweet in flavor and used as food. There is a small oak, both in the Rocky and Cascade mountains, which yields plentifully an acorn of which they make a palatable and nutritious soup. The acorns are gathered in bags holding about eighty pounds, and buried in the sand. After a sufficient time they are taken up, the shells are removed, and the kernels dried and pounded into flour. From this flour the soup is made.

which tended to render this area the nursery of the Indian family. Along the inlets, bays, and islands of Puget's Sound, which has a shore line of fifteen hundred miles, and in the connecting waters of the Gulf of Georgia, oysters and clams are found in extensive beds, and at low tide are gathered with facility. The neighboring Indians not only subsisted upon them at certain seasons, but dried them on strings for exchange with inland inhabitants and for winter use.* It was the salmon fisheries, however, that gave to this region its pre-eminence. The salmon were not confined to the bays upon the coast, but they entered all the rivers of the country, and penetrated the recesses of the mountains as far as the tributary streams were sufficient in volume to admit their passage. Besides the annual run of the Chinook salmon, some species of this fish were found in the Columbia at all seasons of the year. The testimony of all observers is the same with respect to their marvellous abundance, their large size, and their excellent quality. Dr. Sukley, a surgeon in the United States Army, thus remarks: "They come up annually in great numbers on their way to the head-waters of the Columbia. The Indians, as before stated, all collect in the neighborhood of these and other falls, where they riot in feasting on their captured prey. They kill hundreds and thousands of these fish by spearing. The myriads of salmon that ascend the rivers of the Pacific coast are almost incredible. In many places the waters appear alive with them, and the shores are thickly lined with the dead and dying fish. . . . The Columbia River sal-

* The Indians of Queen Charlotte's Island, as late as the year 1860, were accustomed to go down by sea to Vancouver's Island and spend the winter there to benefit by these shell-fisheries. They went in red-wood canoes, each large enough to carry fifty persons, and safe for miles out at sea. Mr. Gibbs remarks that "the tribes living upon the eastern shore possess also territory upon the islands, and their usual custom is to resort to them at the end of the salmon season, that is, about the middle of November. It is there that they find the greatest supply of shell-fish, which form a large part of their winter stock, and which they dry both for their own use and for sale to those of the interior." (*Explorations, etc.*, I. 432.) Speaking of the Chinooks, at the mouth of the Cowlitz, the same writer remarks: "It was really the principal seat of the Chinooks proper, who resort to the Columbia mostly for their spring salmon, while they dug their clams and procured their winter supplies on the bay. It formed, in fact, a perfect Indian paradise in its adaptation to canoe travel, and the abundance of scale and shell fish which it furnished." (*Ibid.*, I. 427.) *Vide* also p. 408, for an account of the mussel-shell beds on the Yakima.

mon weigh from six to forty pounds. The Indians along the river collect during the summer the fish which they want for winter use ; these are split open and the bones removed, after which they are scarified in various directions, and then hung up for a short time in the smoke of a fire. They are then hung on poles or the branches of trees, where they are freely exposed to the wind. In a month they become perfectly dry, and are then housed in small storehouses. . . . Salmon thus dried form the principal food of the natives during the winter.” * He elsewhere observes : “ The salmon of these waters, unlike those of other parts of the world, do not take the hook, and, strange as it seems, they are said never to stop searching after the source of the stream they are in. Their march is always ahead until they spawn and die ; they never return to the sea. This seems to be the general opinion of the people with whom I have conversed.” Mr. Gibbs, before mentioned, in speaking of the salmon-fisheries of the Yakima River, one of the tributaries of the Columbia, says : “ Besides the fisheries at the Dalles, the Yakimas have others on their river, up which the salmon run without interruption far into the mountains. On the main fork in particular they penetrate to Lake Kitchelus, at the very foot of the dividing ridge. In addition to the different kinds of salmon proper, they have also the salmon-trout, two varieties of the speckled trout, — the red and black spotted, both of them growing to a large size, — and some other species of fresh-water fish. The salmon they take in wears and cast-nets. The wears are constructed, with considerable skill, upon horizontal spars and supported by tripods of strong poles erected at short distances apart, two of the legs pointing up stream and one supporting them below. There are several of these wears on the main river, fifty or sixty yards in length. The cast-net is managed by two men in a canoe, one of whom extends it with a pole and the other manages the rope.” † Elsewhere the same writer

* Explorations for a Railroad Route, etc., to the Pacific, I. 299.

† Ibid., p. 407. At the Sault Ste. Marie, the Ojibwas use a scoop-net to take white-fish in the rapids. Two men push out into the stream in a birch-bark canoe, one at the stern to manage the boat with a pole and force it up the rapid, while the other, standing at the bow, takes the fish by plunging the net to the bottom and bagging them as they attempt to run up the rapids. The pole to which the net is attached is about ten feet long. This method is highly successful.

remarks: "The fishery at the Kettle Falls is one of the most important on the river; and the arrangements of the Indians, in the shape of drying-scaffolds and storehouses, are on a corresponding scale. They take the fish by suspending immense baskets upon poles beneath the [water as] traps, into which the salmon spring." *

Father De Smet described to the writer this method of basket-fishing, which he had frequently witnessed at these falls. The basket is made of willow, from fifteen to twenty feet long, five or six wide, and about four feet deep, with a high back upon one side, which is designed to rise above the surface of the water. A stick of timber is firmly anchored in the rocks below the falls, extending out over the stream twenty or thirty feet. To this the basket is suspended, and so far submerged as to leave the back just above the water up stream, while the opposite side is several inches below the surface of the water, and down stream. The ascending salmon rise up the side of the basket and spring into it, where they are held, their passage up being arrested by the high back; and as they never turn their heads down the current they are retained securely. After the basket in this manner is well filled, a man descends into it and hands out the fish. Two hundred salmon, weighing from six to forty pounds each, have been caught in this way in a few hours. They are also speared in great numbers. It was a common occurrence, he remarked, to take three thousand salmon in a day, since there was no limit to their numbers, and a whole band of Indians were engaged in the work. The fish were divided equally among the women each day, the number of females in each family forming the basis of distribution. He further observed that he once spent thirty days at these falls, in the fishing season, with the Kootenays, and received for his share of the fish taken a sufficient quantity, when dried, to load thirty pack-mules.† These falls are fifteen feet high, but they present no barrier to the passage of the salmon up the river. He had often seen them leap these falls in great numbers; in doing which they keep near the surface of

* Explorations for a Railroad Route, etc., to the Pacific, I. 413.

† The natives also prepare fish pemmican from the salmon. After it is dried they pulverize it and mix it with fish oil, and then form it into cakes. It will not, however, keep as long in this form as when dried.

the descending water, and shoot themselves up at one dart, and then continue their course. It is simply swimming up at a faster rate than the water falls. In these attempts they often fail, and are thrown back into the stream. They ascend to the head-waters of the Columbia and its tributaries, filling the small streams, where, worn out and exhausted, they perish in myriads. They are not found in Clarke's River, however, above the great falls.

Lewis and Clarke, the first explorers of the Columbia, make frequent reference to the salmon-fisheries, the methods by which the fish were taken, and their unlimited numbers. "The multitudes of this fish," one of them remarks, "are almost inconceivable. The water is so clear that they can readily be seen at fifteen or twenty feet, but at this season [October, 1805] they float in such quantities down the stream, and are drifted ashore, that the Indians have only to collect, split, and dry them on scaffolds. . . . The Indians assured me by signs that they often used dried fish as fuel for the common occasions of cooking."* Farther on they write: "At the distance [of] two miles below [on the Columbia] are five new huts, the inhabitants of which are all engaged in drying fish, and some of them in their canoes killing fish with gigs; opposite to this establishment is a small island in a bend towards the right, on which there were such quantities of fish that we counted twenty stacks of dried and pounded salmon."† These stacks are subsequently explained as follows: "When it [the fish] is sufficiently dried it is pounded fine between two stones till it is pulverized, and is then placed in a basket about two feet long [deep] and one in diameter, neatly made of grass and rushes, and lined with the skin of a salmon, stretched and dried for the purpose. Here they are pressed down as hard as possible, and the top covered with skins of fish, which are secured by cords through the holes of the basket. The baskets are then placed in some dry situation, the corded part upwards, seven being usually placed as close as they can be put together, and five on the top of them. The whole are then wrapped in mats, made fast by cords, over which mats are again thrown. Twelve of these baskets, each

* Travels, etc., to the Pacific Ocean, London ed., quarto, 1814, p. 353.

† Ibid., p. 363.

of which contains from ninety to one hundred pounds, form a stack.”* Twenty such stacks would contain about twenty-four thousand pounds of dried fish.†

The Columbia River Indians changed their residences at the different seasons of the year, much in the same manner as the aborigines east of the Mississippi at the period when they were first visited by Europeans. The Iroquois, for example, after planting their garden-beds in the spring, most of them, left their villages for their different fishing-encampments, to return again in midsummer when the corn was in the green ear. In the autumn, and again in the winter, parties went out upon the autumn and winter hunts, to return before winter and spring. Lewis and Clarke describe the routine of the Columbia River Indians at the period of their visit, by saying that “the inhabitants of the Columbia plains, after having passed the winter near the mountains, come down as soon as the snow has left the valleys, and are occupied in collecting and drying roots till about the month of May. They then crowd the river, and, fixing themselves on its north side to avoid the incursions of the Snake Indians, continue fishing until about the first of

* Travels, etc., to the Pacific Ocean, p. 365.

† Irving, in his *Bonneville* (p. 385), gives an account of the salmon-fisheries of Snake River, one of the tributaries of the Columbia, as follows: “They take these fish in great quantities and without the least difficulty, simply taking them out of the water with their hands, as they flounder and struggle in the numerous long shoals of the principal streams. At the time the travellers passed over these prairies, some of the narrow deep streams by which they were traversed were completely choked with salmon, which they took in great numbers. The wolves and bears frequent these streams at this season to avail themselves of these great fisheries.” And again on page 396: “It was on the 20th of October when they found themselves once more on this noted stream. The Shoshonees, whom they had met with in such scanty numbers on their journey down the river, now absolutely thronged its banks, to profit by the abundance of salmon and to lay up a stock of winter provisions. Scaffoldings were everywhere erected, and immense quantities of fish drying upon them. In some places the shores were completely covered with a stratum of dead salmon, exhausted in ascending the river, or destroyed at the falls, — the fetid odor of which tainted the air.”

In the rivers of Maine the same thing is occasionally witnessed, where wagon-loads of fish are sometimes found dead upon the banks, and carried away for manure. This is said to be occasioned by stampedes or panics among the fish themselves, when moving in large numbers up stream and encountering some obstruction like shoal water, — the momentum of those below crowding those above into a mass, and forcing them finally upon the land, where they remain to perish. In like manner the beds of dead salmon found upon the tributaries of the Columbia are probably to be explained.

September, when the salmon are no longer fit for use. They then bury their fish and return to the plains, where they remain gathering quamash till the snow obliges them to desist. They then come back to the Columbia, and, taking their store of fish, retire to the foot of the mountains and along the creeks which supply timber for their houses, and pass the winter in hunting deer and elk, which, with the aid of their fish, enables them to subsist till in the spring they resume the circle of their employments.”*

Another prominent characteristic of this region is the mildness of the climate as compared with that upon the same parallels on the Atlantic coast. It is important, since it rendered less clothing and less subsistence necessary, and thus favored an increase of numbers. The mean temperature for spring ranges from 45° to 50° ; for summer, from 60° to 65° ; for autumn, from 50° to 52° ; and for winter, from 35° to 40° ; giving a mean temperature for the year ranging from 50° to $52\frac{1}{2}^{\circ}$. The annual precipitation varied from thirty to sixty inches in different parts of the area.†

The superior advantages which abundance and variety of food and fineness of climate gave to this region over every other part of North or South America cannot fail to arrest attention. Its superiority for Indian occupation is created in the main by the concurrence of a good climate with the possession of the most bountiful and widely distributed fisheries to be found in any part of the earth. These two elements, superadded to other advantages not surpassed if they are equalled elsewhere, must have exercised a potent influence upon population. From the superabundance of the means of subsistence, which belongs to this region above every other already described, or remaining to be noticed, the inference arises that this area would develop a surplus of population from age to age; and that it would become permanently the point of departure of migrations to different parts of the continent. The facts are sufficient to raise a presumption that the valley of the Columbia was the region from which both North and South America were peopled in the first instance, and afterwards resupplied with inhabitants.

* Travels, etc., to the Pacific Ocean, p. 444.

† Blodgett's Climatology of the United States; Isothermal and Hyetal Charts.

A larger population would be expected in this area than in any other of equal extent, with the exception of districts where agriculture was the basis of subsistence; and the population was, in fact, denser, but the excess was not large. The reason must be sought in the nature of the institutions of the Indians, which precluded the formation of a state. They were found subdivided into a large number of petty nations, speaking dialects of several different stock languages, which are more numerous in this area than in any other of equal extent in North America, thus affording decisive evidence of the great antiquity of its occupation. It also shows that no single nation had been able to consolidate these several nations into one in this, any more than in other parts of the continent. The constant tendency was to disintegration, subdivision, and displacement. This tendency is inherent in the institutions of barbarous ages, and continues in force until the institutions of pastoral or advanced agricultural life supplant them. Confederacies of nations serve in some measure to counteract these results; but none existed, of which a knowledge is preserved, in the valley of the Columbia.

The first estimate of the number of the Indians in that region was made by Lewis and Clarke, in 1805. It included all the nations upon the Columbia and its tributaries of which he obtained knowledge, those upon Puget's Sound, and those in the southern part of British Columbia. They were estimated in the aggregate at eighty thousand souls, which was probably an unexaggerated estimate. In 1857, the Indian population in British America, west of the Rocky Mountains, was estimated, as has been stated, at eighty thousand. This included the Louchoux or Kutchin (Kū-tchin'),* of the Yukon and Peel rivers,† and some small bands scattered along the narrow belt of land between the Russian Possessions and the Rocky Mountains, north of the fifty-fourth parallel of latitude. The bulk of these Indians were south of this line, and within the area described. Vancouver's and Queen Charlotte's Islands and the valley of Frazer's River were well adapted to Indian occupation,

* ū as oo in *food*.

† Mr. Murray, before mentioned, who established the first trading-post on the Yukon, informed the writer, in 1861, that this nation numbered from three to four thousand.

and undoubtedly, in 1805, sustained a very considerable Indian population. For that part of the area not covered by the estimate of Lewis and Clarke, about fifty thousand may be added, which would give a much larger aggregate number than was found in any other region of equal extent north of Mexico.

California, which embraces a large area, possessed only ordinary advantages for the support of an Indian population. In 1802, the Spanish missionaries estimated the number of Indians at thirty-two thousand and a fraction over; and in 1852 the Secretary of State of California estimated them at about the same number.*

The Roving and partially Village Indians have now been sufficiently considered with respect to their centres of population, their means of subsistence, and their numbers. It remains to notice briefly the strictly Village Indians, who inhabited the comparatively small area from New Mexico to the Isthmus of Panama. Portions of this area were occupied by Roving Indians, other portions by partially Village Indians, and still other portions were either solitudes or neutral grounds separating hostile nations. The largest development of numbers was in and around the valley of Mexico, and in Yucatan and Guatemala. A dense and unsubdued forest overspread the greater part of Central America, and Mexico was, in the main, a forest country. Since the Village Indians depended upon agricultural subsistence, and occupied a section of the continent poorly supplied with fish and game, inquiry should be directed to the nature and extent of their agriculture. If the degree of its productiveness could be ascertained, it might afford means of ascertaining their probable numbers, and whether it secured to them any positive advantages over the barbarous nations in a contest for the mastery of the continent. Before considering the subject of Indian agriculture, the geographical location of the several nations of Village Indians should be noticed.

Of New Mexico they were the chief possessors, occupying the valley of the Rio Grande and its tributaries, and the valleys of the eastern and southern tributaries of the Colorado. They were found, in 1540, living in great communal houses

* President's Message and Documents, 1855 - 56, Pt. I. p. 575, and note.

constructed of stone or of adobe brick, and several stories high. They dwelt not in single houses with one family in each, nor in many houses grouped together, but in one great house constructed upon a definite model, containing two hundred apartments, more or less, and large enough for an entire band or nation. In rare cases several such houses were grouped together, as at Zuñi; but usually they were situated a mile or more apart, in the same valley, the different bands being leagued together for mutual defence where they spoke the same dialect, or dialects of the same stock language. Castañeda, who accompanied the expedition of Coronado to New Mexico, in 1540-1542, estimated the population of the fourteen villages of Cibola and Tucayan at four thousand men (probably warriors) and that of the numerous villages on and near the Rio Grande and its tributaries at sixteen thousand souls, — which would give an aggregate of about fifty thousand Village Indians.*

From New Mexico southward for about eight hundred miles the country was unfavorable to Indian occupation. As it was thinly peopled, probably its inhabitants never came into prominent notice. But thence southward to the Isthmus the country was more favorable to a population depending upon agriculture for sustenance. With a tropical climate, relieved by table-lands, the disadvantage of the absence of fisheries and of the larger forest-animals was more than counterbalanced by increased agricultural production, and by wild fruits and useful plants. These advantages were again lessened by geographical location and contracted areas. The drift of population seems to have been down the mountain-chains to the valley of Mexico, and thence toward the Isthmus, the only means of exit from the northern half of the continent. Any nation attempting to hold the table-lands of Mexico, forming as they do a natural gateway to the distant south, must have been able to repel and turn back this flow of migrating bands, or have been swept away by the current. Moreover, barbarous nations are strongly attracted to the seats of even partial civilization for purposes of rapine and plunder: witness the continuous assaults of the Apaches and Navajos, within the last hundred years, upon the Village Indians of New Mexico, and the ruined and abandoned

* Coll. Ternaux-Compans, Vol. IX.

pueblos within that area. History furnishes some evidence tending to show that no nation, previous to the Aztecs, had been able to hold permanently the table-lands of Mexico, or to develop a population upon the basis of agriculture, able to maintain itself there, much less to extend its power and influence northward. The Toltecs, of whose previous occupation, advancement in civilization, and retirement from the valley we have some information, doubtless repeated the experience of nation after nation which had preceded them. At the time of the Spanish conquest the Aztecs had been dominant in the valley about two hundred years, and coming, like their predecessors, from the north, they had neither extended their conquests, nor planted a colony north of the borders of the valley. On the contrary, they were confronted by hostile and independent nations on the west, northwest, northeast, and east sides ; that is, upon all sides except the southwest, south, and southeast, in which latter directions they had extended their authority over the more feeble portion of the southern Village Indians.

With respect to the numbers and the social and civil condition of the Village Indians of Mexico and Central America at the time of the conquest, our information is very far from satisfactory. From the outset the phenomena of their civilization appear to have been to the invaders an enigma of marvellous interest ; but we have lost the principal facts necessary for its elucidation, in gaining volumes of romance.

At that period the areas above named were occupied by forty petty nations — more or less — speaking dialects of several different stock languages, living chiefly in villages, and depending upon agriculture for a subsistence. Their villages were constructed in eligible situations upon the margins of lakes, the banks of rivers and streams, and sometimes in positions of natural strength. Since their agriculture was confined to garden-beds around and near their villages, the greater portion of these countries was a wilderness without inhabitants, except as it was traversed by hunting-parties or roving bands. Each nation, or confederacy of nations, was under its own chiefs, and governed in accordance with those usages and customs which were the common inheritance of the Indian race. The evidence that any considerable number of these nations were

consolidated into a state is not satisfactory. In other words, it cannot be affirmed that any number of these nations speaking different stock languages had become absorbed into one national organization, with common laws, and one executive government to which they all acknowledged allegiance and from which they received protection. The Aztec confederacy, the dominant Indian power of the period, had subdued the nations south of the valley, in a westerly and southerly direction to the Pacific, southeasterly to Guatemala, Yucatan, and the Gulf of Mexico, and along the western shores of the Gulf near Vera Cruz; and they are said to have been the terror of surrounding nations, from their confederate organization, their numbers, and their sanguinary character. The nations which they had conquered were subjected to tribute, and held in the nominal connection which its payment implies; but the Aztecs and their confederates did not spread over the territories of these nations, nor attempt to impose upon them either their language, their customs, or their direct civil administration. At least there is no satisfactory evidence that they did. Traces are found among these nations of the three stages of political organization common among the northern Indians: first, the tribe, composed of persons of the same immediate descent; second, the nation, consisting of several tribes intermingled by marriage and speaking the same dialect; and lastly, the confederacy of nations speaking dialects of the same stock language. Most of them appear to have been in the second stage, organized into nations; but a portion of them had reached the third, of which the Aztec, the Tlascalcan, and perhaps the Cholulan and Michuacan confederacies are examples. With respect to the tribal organization, the evidence is fragmentary. Among the Aztecs the descent of the office of chief from brother to brother, or from uncle to nephew, can be explained only by the hypothesis of a division into tribes, with descent limited to the female line, as among the Iroquois.*

The Aztec confederacy embraced the Aztecs, Tezcucans, and Tlacopans,† who spoke either the same, or dialects of the same

* League of the Iroquois, p. 87.

† There is some uncertainty concerning the correct name of the third nation. Tlacopan, on the west side of the lake, was the name of the pueblo of the Tepanecans, one of the seven nations who "came from the far countries which lie toward

language, and occupied, in conjunction with other villagers of kindred descent, the valley of Mexico. It is not improbable that the Chalchacs, and other villagers who maintained a distinctive name, were independent members of the confederacy. The valley is oval in form, being longest from north to south, and is about one hundred and twenty miles in circuit. A large portion of it is covered with lakes. It is surrounded by a series of hills, one rising above the other, with depressions between, encompassing the valley with a mountain barrier. Within it the nations just named resided at the time of the Spanish conquest, in about thirty pueblo villages, more or less. There is no evidence that any considerable portion of the confederates resided outside of the valley and the adjacent hillslopes; but, on the contrary, there is satisfactory evidence that the remainder of modern Mexico was then occupied by nations who spoke stock languages different from the Aztec, and most of whom were independent of the Aztec power. This fact has a material bearing upon the probable numbers of the people thus confederated. Any estimate here must be purely conjectural. There are no materials from which an approximation to accuracy can be made. There is no doubt that a much larger population was found in particular districts of Mexico and Central America than in any other equal area in North America, and that the valley of Mexico contained a larger number of people than any other district of equal extent. But there is no ground for reckoning this population by millions; * a much

the north, . . . to people the land of Mexico." (Joseph Acosta, *Nat. and Mor. Hist. East and West Indies*, Lond. ed. 1604, Grimstone's Trans. p. 500.) The latter would seem to be the correct name of this nation.

* It is a common statement, running through most of the histories of the Conquest, that the pueblo of Mexico contained *sixty thousand houses*. Zuazo, who visited Mexico in 1521, cited by Prescott (*Conquest of Mexico*, II. 112, note), wrote *sixty thousand inhabitants*; the Anonymous Conqueror, "sixty thousand fires"; but Gomara and Martyr wrote *sixty thousand houses*, and the last has since been steadily repeated by Clavigero (*Hist. of Mexico*, Phila. ed. 1817, II. 360); by Herrera (*Hist. of America*, Lond. ed. 1725, II. 360); and by Prescott (*Conquest*, etc., II. 112). Solis says *sixty thousand families* (*Hist. Conquest of Mexico*, Lond. ed. 1738, I. 399). Torquemada, cited by Clavigero (*Ibid.*, II. 360, note) increases the number to *one hundred and twenty thousand houses*. There cannot be a reasonable doubt that the houses of the Aztecs were most of them great communal edifices like those in New Mexico, some of them large enough to accommodate a thousand or more people. This magnifies the exaggeration to an impossibility. If these later writers had any

smaller number would have exhausted the resources of the country as developed by Indian agriculture. In the valley of Mexico, excluding the lakes, and including a liberal belt of surrounding hills, there may be fifteen hundred square miles of land. If we allow one hundred and seventy inhabitants to the square mile, which is double the average number to the square mile in the State of New York, it would give to the nations of the valley two hundred and fifty-five thousand souls. It is difficult to see how so large an estimate can be sustained.

With respect to the nations and languages of Mexico, modern research has advanced but little beyond the sketch of Clavigero, except in relation to the grammatical structure of some of these languages. It will be sufficient to follow his authority for the names and locations of the principal remaining nations. He enumerates fourteen stock languages in Mexico and Yucatan.*

The most prominent Indian nations contemporary with the Aztecs were the Chichimecs, who occupied the country on the northwest border of the valley, and ranged westward well towards the Pacific. They were non-agricultural, and independent of the Aztec confederacy. † South of them were the Otomies, who for the most part were non-agricultural and independent. A portion of them near the valley appear to have been subdued by the Aztecs. These nations spoke different languages. South of the Otomies and immediately west of the valley of Mexico were the Michuacans, who occupied a large area extending towards the Pacific. They spoke the Tarasca language, and were independent of the Aztecs. Southwest of the valley, and bordering upon it, were the tributary Matlatzincas, an inconsiderable people, who spoke a language of the same name, and occupied, with a portion of the Otomies, the valley of Talocan. On the northeast of the valley, and about eighty

real knowledge of the subject, it must be supposed that they meant "apartments" instead of "houses," treating each great house as a block of houses, and estimating the number of rooms. Zuazo's estimate is probably the nearest to the truth.

* History of Mexico, III. 371.

† "The ancient and first inhabitants of New Spain were men very barbarous and savage, which lived only by hunting; for this reason they were called Chichimecas. They neither sow nor till the ground." (Acosta, Nat. and Mor. Hist., etc., p. 497.) Although Acosta makes this a general name for the Roving Indians in Mexico, there was a distinct nation of this name in the region referred to.

miles distant, were the Meztitlans, who spoke a dialect of the Aztec, but were independent. East of the latter, and ranging to the Gulf of Mexico, in the region around Tampico, were the Huastecas, who spoke the Huastec language, and were independent. South of them, and ranging along the gulf as far as Vera Cruz, were the Totonacs, who spoke the language of the same name, and acknowledged the supremacy of the Aztec confederacy. Between them and the valley of Mexico, but confined to an area of moderate dimensions, were the sturdy Tlascalans, also independent. Southwest of them were the Cholulans, supposed to have been a subdivision of the Tlascalans. Whether the Tlascalan was an independent stock language is not ascertained. It is asserted that the Cholulans were subdued by the Aztecs shortly before the Spanish conquest; but Clavigero places them in the list of independent republics.* In the areas south of the several nations named, between the valley of Mexico and the Pacific, and extending eastward to Guatemala and Yucatan, were several other nations, of whom the names and locations are preserved, and but little besides. Among them were the Mixtecas and Zapotecas, who spoke the Mixtec and Zapotec languages; the Chinantecas, Mazatecas, Tlahuicas, Coahuixcas, Popolocas, and several others scarcely needing enumeration, — all supposed to have been tributary to the Aztec confederacy.† Whether these Village Indians were permanently subjugated, and acknowledged their dependence by paying periodical tribute, or whether their submission ended with the foray that enforced the tribute, we are not precisely informed.

The Village Indians of Yucatan and Guatemala were, probably, the highest of the class in North America, as well as the oldest in their civilization. They possessed some advantage in their sheltered position behind the Gulf of Mexico, and off the great highway of migration to South America, toward which the movements of the northern Indians tended to drive the fragmentary and broken nations. The remains of their pueblos in ruins bear testimony to their higher development. Their agriculture must have been more efficient, to over-

* History of Mexico, I. 6.

† Doña Marina, the interpreter of Cortes, was born in the province of Coat-zacualco, on the Gulf of Mexico, near the Tabasco River, and spoke a dialect of

come the superior activity of the forces of nature in a tropical climate. "The kingdom of Yucatan," says Las Casas, Bishop of Chiapa, who wrote in 1539 the relation from which we quote, "contained a prodigious number of people; the air of the country is very temperate and pleasant; it has great plenty of fruits, and all the necessities of life; it exceeds Mexico itself in fertility. . . . The inhabitants of it are more polite, more civilized, and better civilized in morals and in what belongs to the good order of societies, than the rest of the Indians. There is a remarkable prudence and justness of mind in them, which is not to be found in others."* And Herrera remarks to nearly the same effect: "These people were then found living together very politely in towns, kept very clean, without any ill weeds growing about, but with fruit-trees orderly planted. Their temples were in the midst of their towns, and near to them the houses of their prime men and priests, those of the commonalty being farther off; and the common wells were in the squares or market places; and the reason of their being so close together was because of the wars which exposed them to the danger of being taken, sold, and sacrificed; but the wars of the Spaniards made them disperse."† From the references of Las Casas to the number and location of the pueblo villages in Yucatan and Guatemala, it is to be inferred that they were numerous, and, when constructed upon the banks of rivers, were so near together as to be in sight of each other, in some cases, for miles together. These tribes seem to have followed precisely the same method of building as the Village Indians of New Mexico.

Within a few years after the conquest of Mexico the pueblo villages of Yucatan, Guatemala, and Honduras were ravaged by military adventurers, and the people driven from their pueblos into the forests. The Spaniards destroyed in a few years a higher civilization than they substituted in its place.

the Aztec language. "Doña Marina understood the language of Guacacualco and Mexico, which is one and the same." (Bernal Diaz, True Hist. Conq. of Mexico, London ed. 1803, I. 76.)

* An Account of the first Voyages and Discoveries made by the Spaniards in America, London ed. 1699, p. 52.

† Herrera, IV. 168.

“The pretence,” says Las Casas, “of subjecting the Indians to the government of Spain is only made to carry on the design of subjecting them to the dominion of private men, who make them all their slaves.” *

The Maya language was spoken in Yucatan ; the Quiche, Poconchi, and some other languages in Guatemala ; and the Chontal in Nicaragua. Oviedo, who was in the last-named province in 1526, states that there were five languages spoken there, of which the one most extensively used was the same as the Aztec. †

It is not improbable that the nations of Mexico and Central America above enumerated were so described on the ground of a common language, and that some of them were subdivided into nations speaking dialects of the same stock language. The continuity of territorial possession is usually well preserved by nations of the same speech ; but this did not arrest the inevitable tendency to disintegration inseparable from their institutions. The number of nations must be measured by dialects, and not by stock languages. It is further probable that each group of pueblos occupied by people speaking the same dialect was independent, except as several such groups were confederated for mutual protection. In strictly village life the tendency to disruption was even greater than in the non-stationary condition ; and consequently the Village Indians, although more numerous in equal areas, were probably more disunited and less efficient and warlike than the barbarous nations.

Having now considered the most important districts of North America with reference to the means of subsistence which they respectively afforded, and compared the particular advantages of each with such statistics of actual population, except as to the Village Indians, as our limited information furnishes, inquiry should next be made into the nature and extent of Indian

* Account of the first Voyages, etc., p. 119. Elsewhere he quotes from the letter of the Bishop of St. Martha to the king, as follows : “To redress the grievances of this province, it ought to be delivered from the tyranny of those who ravage it, and committed to the care of persons of integrity, who will treat the inhabitants with more kindness and humanity ; for if it be left to the mercy of the governors, who commit all sorts of outrages with impunity, the province will be destroyed in a very short time.” (p. 61.) He also says, “Fourscore towns and villages at least were burned in the kingdom of Xalisco.” (p. 51.) The good bishop’s numbers must be received with caution.

† Trans. Am. Ethn. Soc., I. 7.

agriculture; and this for the purpose of ascertaining whether a subsistence derived from agriculture, or one procured by fishing and the chase, tended to the more rapid production of a surplus population to be sent forth as emigrants into other areas.

Indian agriculture was based upon one cereal, Indian corn, and upon three indigenous plants, the bean, the squash, and tobacco. To these, cotton, a species of pepper, and of onion, were added in some areas. The Aztecs, and some of the nations south of them, had, without cultivation, several useful fruits and plants, such as cocoa, — from which they prepared chocolate, — the banana, and the maguey. The art of cultivating the ground doubtless sprang up as a happy accident, after the Indians had overspread North America and discovered these “gifts of the Great Spirit to the red man.” Where it originated it is impossible to ascertain, though one may reasonably conjecture that it must have been in a tropical climate, in some moist, hot region, where corn is most prolific and was probably indigenous. Its introduction was a great event in the primitive history of the Indians. Without agriculture they could not have reached the second stage of their development, namely, that of permanent villagers. After the art of cultivating corn was acquired, agriculture would spread with the people; but it would not be restricted to the lines covered by their migrations. In many fortuitous ways it might be transferred from nation to nation by the opportunities of aboriginal life. The art spread, in the course of time, throughout Central America, Mexico, and the West India Islands. Northward it was carried, it must be supposed, first into New Mexico, and thence to the Mississippi valley, whence it spread from the Gulf of Mexico to the chain of lakes and as far east as the Kennebec River. The Hurons introduced it on the Georgian Bay of Lake Huron, the Shiyans on the river of that name, a tributary of the Red River of the North, and the Minnitarees on the Upper Missouri. It was unknown in all other parts of North America, and confined to mere patches of land within the areas named.

Indian agriculture was rude, and of moderate productiveness. It was limited to garden-beds upon alluvial soils, where the climate was moist, and to irrigated garden-beds where it was dry. This kind of cultivation is the most productive in

equal areas, and with irrigation is immensely productive ; but there was a drawback in the smallness of the areas that could be cultivated. The thought of subduing the forest never entered the Indian mind. To clear it was impossible without metallic implements, and field agriculture equally impossible without the horse or ox and the plough, neither of which were known to the American aborigines. They cultivated therefore only small patches of alluvial land upon the margins of rivers and lakes, and such shreds of prairie as they were able to dig over, and such bottom lands, in the dry regions, as they were able to irrigate by means of canals. But little is known of their implements for horticulture (for it was horticulture, rather than agriculture, which they practised). The Northern Indians probably used the common stone chisel, set in a handle like a pick, as a pointed instrument to break the soil ; but even this is partly conjectural. A stick or a bone was the usual implement. In Mexico and Central America implements of native copper were used to some extent. Clavigero remarks that, "to hoe and dig the ground they [the Aztecs] made use of the *coatl*, which is an instrument made of copper, with a wooden handle, but different from a spade or mattock. They made use of an axe to cut trees, which was also made of copper, and was of the same form as those of modern times, except that we put the handle in the eye of the axe, whereas they put the axe into an eye of the handle." And he naively concludes: "They had several other instruments of agriculture ; but the negligence of ancient writers on this subject has not left it in our power to attempt their description.*" Herrera, speaking of the Village Indians of Honduras, observes that they have "also Indian wheat, and kidney beans, which they sow thrice a year ; and they were wont to grub up great woods with hatchets made of flint, which all could not get before they had the use of iron. They turned up the earth with long staves that had two hooks or branches coming from them, one above and another below, to press hard with the arm and foot, as also sharp shovels ; being wont to sow little, as they were very slothful and often in want, eating several sorts of roots."† Bernal

* Conquest of Mexico, II. 177.

† History of America, IV. 133.

Diaz remarks that "copper axes and working tools" were offered for sale in the markets of Mexico, but gives no particulars of them.* The implements that they used were doubtless of the simplest and rudest kind. After their garden-beds were once formed, the work of planting and cultivating them would be moderate from year to year; but the reduction of the ground in the first instance was the permanent obstacle to the use of large areas. Amongst the partially Village Indians labor was despised by the males; the cultivation, consequently, fell upon the overtaxed females. Nevertheless this class of Indians, east of the Mississippi, raised crops of corn, not large enough to save them at all times from famine, yet sufficient to sustain them in considerable numbers. In New Mexico and southward the labor of cultivation appears to have been shared more equally between the sexes, which serves to explain the greater productiveness of the horticulture of that region.

Irrigation was the favorite method of cultivation with the Village Indians. It was extensively practised in Mexico, and appears to have been the exclusive method in New Mexico. A brief explanation of the ancient method in the latter territory, where it is still practised, will assist materially to an understanding of Indian agriculture. The sites of their pueblos were usually in narrow valleys, watered by streams often of considerable size. The pueblo was located upon high ground within the valley, but the garden-beds were upon the first river terrace. An acequia, or canal, commencing sometimes a mile or more above the village, was excavated deep enough to draw off a portion of the water of the river and conduct it back of the garden-beds to be irrigated, and not unfrequently one or two miles below the pueblo, where it was discharged into the river. The acequia, starting from the river, was led back to the outer margin of the valley as soon as the descent would permit, and then carried past the pueblo at such an elevation that the bottom of the canal would be higher than the garden-beds, which were laid out between the canal and the river. These canals were usually about ten feet wide at the bottom, with sloping banks, and the flowing water within them about a foot and a half deep. If the soil was loose, and the water not abundant,

* History of the Conquest of Mexico, I. 206.

the bottom was often paved with cobble-stones, or, in some cases, with flat tiles of clay.* Lots were laid off with a frontage upon the main canal, and separated from each other by dividing ridges. Each family, or group of families of related persons, had their own lot, which was private property. These lots, measured on the canal, varied from fifty to two hundred feet in width, and extended from the canal to the river, or as far as the proprietor chose to cultivate. Each lot was subdivided into garden-beds about twenty feet square, surrounded by embankments about a foot high; so that a lot sixty feet front on the canal and two hundred feet deep would contain thirty such beds. After the ground was prepared, and before the seeds were planted, a sluice was cut from the main canal to the first lot, and the several garden-beds overflowed with water to the depth of about eight inches; openings being made through the low embankments separating the several garden-beds, until the water was conducted over the entire lot. In thus irrigating it was necessary to dam the main canal, below the side cut, in order to turn the flow of water into the garden. This process was repeated from day to day, until all the garden lots of the pueblo had been submerged, and by the absorption of the water brought into a proper condition for the seeds. The same process of irrigation was repeated when the growing corn was about eight inches high; and usually a third time at a later stage of its growth, the number of times depending upon the amount of rain which might fall during the growing-season. Very large crops of corn, beans, and squashes were thus raised upon small areas; but it will be seen that it involved such an amount of labor to prepare and grade the ground as to restrict the area cultivated to a small one for each pueblo.† This simple

* There are miles of acequias now in use in New Mexico, and the remains of miles of abandoned acequias near the pueblos in ruins. Captain Johnson, U. S. A., thus speaks of a district on the Gila fifteen miles long: "The ground in view was about fifteen miles, all of which, it would seem, had been irrigated by the waters of the Gila. I also found the remains of an acequia, which followed the range of houses for miles. It had been very large." — *Reconnaissance in New Mexico, Journal Captain A. R. Johnson, Ex. Doc. No. 41, 30th Congress, 1847-48, p. 598.*

† "A mistaken idea prevails in regard to the great advantages of artificial irrigation over that of natural rains. It is true that when the cultivator can depend upon an ample supply of water at all seasons in the irrigating canals, he possesses an advantage over him who relies exclusively on nature. But the misfortune is that

but ingenious method of cultivation is the highest evidence that can be adduced of the progress made by the Village Indians in civilization.

Another method of irrigation appears to have been practised, and upon a very extended scale, by the Aztecs and their confederates in the valley of Mexico. It is a difficult and hazardous subject to touch. Few nations as small have elicited such masses of historical writing; and none have had their public affairs decorated with such wealth of imagination; yet, when it comes to a practical question as elementary as the means whereby they lived, these histories afford very little direct information. It appears that they cultivated in garden-beds, and upon a large scale, corn, beans, and pepper; that they raised cotton and tobacco; and that they had cocoa, the banana, and the maguey, the latter of which was utilized in many different ways. Provisions, such as they were, seem to have been abundant. But the support of the excessive population credited to this valley, upon the products named, in the absence of a field agriculture, would have required horticultural cultivation upon a much more extended scale than there is reason to suppose could ever have existed. The necessity of resorting to conjecture to explain the cultivation of this valley is the best evidence of the imperfect state of our knowledge. The one about to be offered must be taken for what it is worth.

In a previous article in this Review,* the writer observed that "Mexico appears to have been surrounded by shallow artificial ponds, which answered as an exterior defence. It may be conjectured that the water was held there by means of dikes and causeways, and that the supply of water was obtained by damming Lakes Xochimilco and Chalco. These lakes at present are a little less than five feet higher than the Plaza of Mexico, which, in turn, is about six feet higher than the present level of

when water is most needed the supply is the scantiest. In February and March there is always enough [in New Mexico] for the first irrigation. In April and May the quantity is much diminished; and if the rise expected to take place in the middle of May fails, there is not enough to irrigate properly all the fields prepared for it; the consequence is a partial failure of the crops." — Bartlett's *Personal Narrative*, I. 187.

* April, 1869, p. 492, note.

Lake Tezcuco. By means of dams and dikes, with both of which the Aztecs were familiar, this result might have been attained." These suggestions need further development. In the absence of any evidence that the climate of Mexico has changed since the Spanish conquest, it must be assumed that the level of Lake Tezcuco was the same then as now ; less the amount of water discharged into it by the small lakes to the northward of Mexico, the outlets of which were turned out of the valley by the tunnel of Huehuetoca, constructed in the beginning of the seventeenth century. The level of the lake would vary with the relative amounts of precipitation and evaporation. Lake Tezcuco, which is now three miles east of Mexico, is thirteen miles long and nine broad. Lake Chalco is now nine miles south of Tezcuco ; and Lake Xochimilco, at its west end, is five and a half miles south of Mexico. These last lakes are connected by an outlet, and together are fifteen miles long,* and discharge into Lake Tezcuco, through an outlet seven miles long, running along the borders of the present city of Mexico. At the time of the Spanish invasion, in 1519, there is no doubt that the waters of the three lakes were united by a narrow neck, and covered more than twice their present areas, and that the pueblo of Mexico was entirely surrounded by water. "The city of Mexico was then situated," says Clavigero, "as we have already said, upon a small island in Lake Tezcuco. . . . For the convenience of passing to the mainland, there were three great causeways of earth and stone raised in the lake. That of Iztapalapan, towards the south, upwards of seven miles ; that of Tlacopan, towards the west, about two miles ; and that of Tepejacac, toward the north, of three miles in length ; and all three so broad, that ten men on horseback could pass abreast." † And Herrera to the same effect : "Mexico, Tenochtitlan, is every way encompassed with fresh water, though thick, and, being in the lake, has only three avenues along the causeways. One of them comes from the west, about half a league in length, another from the north, a league long. On the east there is no causeway, but only canoes to come at it. The other

* Map of the Valley of Mexico, by Lieut. Hardcastle, U. S. A. ; General Scott's Expedition to Mexico, 1847 ; President's Message and Documents, 1847 - 48, p. 256.

† History of Mexico, II. 359.

causeway is on the south, two leagues in length, along which Cortes and his men entered. It is to be observed that, as the Lake of Mexico stands, it seems to be but one, yet there are two, and of very different nature; for the water of one of them is brackish, bitter, naught, and neither breeds nor will bear any sort of fish, and the water of the other is fresh, and has fishes, though small. The salt ebbs and flows, more or less, according as the wind blows on it. The fresh is higher, and so runs into the salt, and not the reverse, as some have thought, through six or seven large gaps that are in the causeway that divides them, over which there are large wooden bridges. The salt lake in some places is five leagues over, and eight or ten in length, the compass of it being about fifteen. The fresh water is about the same compass." * The problem then is to explain the former presence of a lake where none now exists, with no change of climate in the interval; the lake having two sections, one of them brackish, and the other fresh. Since the lake of brackish water still remains, and has no outlet, it explains itself; but the fresh-water lake around Mexico has disappeared. Lakes Xochimilco and Chalco are also much reduced in size.

The Aztecs as cultivators were familiar with the uses of water, both for irrigation and as a solvent to assist in the reduction of land. They were also familiar with dams and canals, and constructed dikes miles in length. The marsh lands around the pueblo then, as around the city now, were not available for cultivation. A series of dams upon the outlet of the fresh-water lakes, from their mouth to Lake Tezcuco, would be the first expedient, followed by lateral dikes for the formation of ponds over the lowlands around the pueblo. These ponds would serve to irrigate the patches of higher and better land. This plan or method of irrigation, followed up for years, would finally produce the result of covering the entire region around the pueblo with water, serving as a defence also, and necessitating the construction of the great causeways as they were afterwards found. Earth and mud were thrown up on the margins of the ponds and formed into gardens, and every patch rising above the water or which could be raised by artificial means was put under cultivation. Even floats were constructed

* History of America, II. 363.

upon an extensive scale, covered with earth and mud and planted as garden-beds. They were rather a necessity of their method of cultivation, as Clavigero states, than the result of luxury and taste.* Some of the pleasure-gardens attracted the attention of the conquerors from their great size and orderly arrangement, among which were those of Ixtapalapan and Huaxtepec. Of the first, Clavigero observes: "It was laid out in four squares and planted with every variety of trees, the sight and scent of which gave infinite pleasure to the senses; through these squares a number of roads and paths led, some formed by fruit-bearing trees, and others by espaliers of flowering shrubs and aromatic herbs. Several canals from the lake watered it." And of the latter: "The garden of Huaxtepec was still more extensive and celebrated than the last. It was six miles in circumference, and watered by a beautiful river which crossed it."† There were fields of maize and pepper around Cholula, near Chalco, and other towns as well as near all the pueblos in the valley. Most of them appear by the accounts to have been cultivated by irrigation. "For the refreshment of their fields," says the same author, "they made use of the water of rivers and small torrents which came from the mountains, raising dams to collect them and forming canals to conduct them."‡ There is no doubt that land was also cultivated without irrigation, but with a greater expenditure of labor in its reduction. The topographical map of Lieutenant Hardcastle shows low grounds around Mexico in the

* "Necessity and industry together taught them to form movable fields and gardens, which floated on the waters of the lake. The method which they pursued to make those and which they still practise is extremely simple. They plait and twist willows and roots of marsh plants together, which are light, but capable of supporting the earth of the garden firmly united. Upon this foundation they lay the light bushes which float on the lake, and, over all, the mud and dirt which they draw up from the bottom of the lake. Their regular figure is quadrangular; their length and breadth varies; but as far as we can judge, they are about eight perches long, not more than three in breadth, and have less than a foot of elevation above the surface of the water. They were the first fields the Mexicans owned after the foundation of Mexico; there they first cultivated the maize, great pepper, and other plants necessary for their support. In progress of time as those fields grew numerous from the industry of those people, there were among them gardens of flowers and odoriferous plants." — *History of Mexico*, II. 175.

† *History of Mexico*, II. 180.

‡ *Ibid.*, II. 177.

precise areas covered by the ancient ponds. It is probable that the great square of the Aztec pueblo was lower than the present level of the plaza of Mexico; and if about two feet above the level of the ponds, there would be about two feet difference between the level of the latter and of Lake Tezcuco, which was then probably several inches higher than at present. A series of low dikes between the pueblo and Lake Tezcuco would produce this result with apparently one lake, yet in reality two, as described by Herrera, the fresh-water lake being higher and flowing insensibly into the lower.* In a short time after the Conquest the lake around Mexico had entirely disappeared. Bernal Diaz, who was writing his work in 1558, remarks: "That which was a lake is now a tract of fields of Indian corn, and so entirely altered that the natives themselves could hardly know it."† If this conjecture with respect to the formation of a great artificial pond or ponds around the pueblo of Mexico, by means of dams and dikes to hold the waters discharged by Lakes Xochimilco and Chalco and by the mountain streams, is accepted as probably true, it tends very much to raise our estimate of the intelligence and industry of the nations of the valley, as well as to bring distinctly before the mind the formidable obstacles which, in their condition, impeded their progress in civilization. The evidence which it also affords as to the great amount of labor connected with the reduction and cultivation of land by their methods, places a limit to the possible population of these areas.

Whether, at the time of the discovery of this continent, a subsistence derived from the chase, or one resting upon agriculture, was more favorable to an increase of the numbers and development of the power of the American aborigines, and whether the preponderating influence in peopling North America belonged to the Roving and partially Village Indians, or to the Village Indians proper, cannot be determined from the facts thus far presented. It will be necessary to consider the actual migrations, and to find the source whence the emigrants came, to procure the remaining facts necessary to settle

* "Around the city there were many dikes and reservoirs for collecting water when it was necessary, and within it so many canals that there was hardly a district that could not be approached by boats." — *History of Mexico*, II. 231.

† Conquest of Mexico, I. 188.

these questions. For the present it may be remarked, that the first effect of substituting agriculture in the place of a subsistence obtained from fisheries and the chase, was to break up the roving propensity by localizing the people in villages. This was a substantial advance. It is found to be nearly universally true of both divisions of the American aborigines, that nations speaking dialects of the same stock language maintained a territorial continuity with each other. This may have sprung, in part, from the influence of the bonds of kinship of language in securing mutual protection. It often resulted in confederacies. But the areas occupied by kindred nations of Village Indians were much smaller than those held by an equal number of nations of the other class. Moreover, from the direct personal nature of Indian government, each pueblo tended towards a state of independence of every other, while village life increased rather than moderated the tendency to political subdivision. This was a hindrance to progress. The inability of the Indians to rise out of the condition in which they were found was the result of the arrested growth of the idea of government. In the first place, they could not prevent the divergence of language into dialects, consequent upon geographical separation and diminished intercourse; secondly, when confederacies were formed, they were established generally too late to include all the nations of the same immediate descent; and thirdly, they were unable, with their means of subsistence, to develop population of the same descent in sufficient numbers within the folds of one confederacy to establish a formidable power. Their form of government was not adapted to overstep the barrier of diversity of language and include nations alien in speech, except as tributary, dependent, and humiliated. The idea of government is a growth through successive periods of development. It has its stages of development in barbarous society, and its after stages in civilized society, which are continuations the one of the other, and all stand together in a logical series. Its successive forms are founded upon the growth of man's experience in society. The American aborigines, as elsewhere remarked, had developed the first three stages, which belong to the period of barbarism: first, that of chief and followers, as represented by the tribe; second, that

of a council of chiefs over a number of tribes, as represented by the nation; and third, that of a great council of chiefs over several nations, represented by the confederacy. Out of this came a tendency to advance a head-chief from among the members of the council, as the executive agent of its will. For the sufficient reason that the council remained supreme,* it was rather a tendency towards, than the establishment of, an executive, a necessity of their form of government rather than a lodgement of irresponsible power in a single person. In judging of the degree of their progress, the permanent existence of a council which held the powers of government must be kept in view. For another significant reason Indian chiefs did not govern according to their sovereign pleasure: because the power of deposition, as well as of election, was held by the respective tribes. The idea of a state is essentially modern in man's history. In its perfect development it is a government of equal and impartial laws enacted by the people themselves, through representatives of their own selection. In such a state the law rules, and not the executive, not the legislature, not the magistrate. The American aborigines were very many stages below this idea of a state.

From these various considerations it may be seen why it was that the Village Indians did not rise to a supremacy over the continent by reducing the Roving Indians to contracted areas, occupying their best positions, and holding them powerless for aggression. The Aztecs were unable to carry their power a hundred miles beyond the valley of Mexico, either north, west, or east. In warfare they possessed no advantages over the barbarous nations. On the contrary, there are reasons for believing that the latter were in general superior to the Village Indians in hardihood and courage, and in warlike inclinations.

Some further evidence tending to show that the Roving and partially Village Indians took the lead in peopling North America will be found in their migrations, which will form the subject of a subsequent article.

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* Acosta, after defining four grades of Aztec chiefs, observes that "all these four dignities were of the great council, without whose advice the king might not do anything of importance." *Nat. and Mor. Hist. East and West Indies*, p. 485.